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Community newsletter

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Cleanaway and Griffith: A new partnership at New Chum

Cleanaway and Griffith University are revolutionising the way landfill is rehabilitated as part of a ground-breaking partnership at our New Chum facility in Ipswich.

A research project being headed by Dr Ruby Michael and PhD candidate Tony Kim, from Griffith's School of Engineering and Built Environment, has transformed a two-hectare site at New Chum into a lush natural ecosystem that doubles as an effective and efficient way to cap the completed cell.

Dr Michael is part of Griffith's Green Infrastructure Research Labs and an expert in phytocapping, a technology that uses a combination of soil and native vegetation to act as a bio-pump and control the amount of rainfall that filters through to compacted waste.

Traditional landfill capping involves 'hard infrastructure' solutions like geosynthetic clay liners as part of a multi-layered system. Dr Michael said phytocapping had better environmental outcomes while delivering the same engineering performance.

> Our population is increasing and nature is getting pushed to the edges. We are looking at ways to integrate soil-plant systems back into our built environment. We are sharing space with animals, birds, insects and we don't want them to be pushed to the margins," Dr Michael said.
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> "Phytocapping is part of rehabilitating the landfill. It is essentially a soil layer that absorbs rainfall. We try to minimise the amount of water that gets into waste and minimise pollution. Traditionally, that has been done with hard infrastructure solutions.
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> "The alternative is to re-establish a native ecosystem; put in a non-compacted soil layer and plant it with an urban forest and achieve the same engineering and hydraulic containment outcome."

The results at New Chum have been excellent, with some of the trees and plants growing at a faster rate than Dr Michael and Mr Kim had expected. What was a bare, covered landfill cell is now a patch of attractive bushland that is home to a thriving range of native plants and animals.

The partnership is in line with the values of both Griffith University and Cleanaway, who are leaders in the circular economy and want to ensure the land is successfully rehabilitated for future use. Cleanaway and Griffith have extended the partnership until 2025 and look forward to another two years of productive collaboration.

> We decided to turn the entire two-hectare site into a research facility. We came up with some different planting strategies and monitored the hydrological performance of those, which had never been done before. They can apply that knowledge to their next iteration," Dr Michael said.
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> "We both value sustainability highly and want to see the best outcome for rehabilitation of the land and return of that back to the community and back to nature."

Aaron Carter, Cleanaway's General Manager of Solid Waste Services – Queensland, welcomed the partnership extension to 2025 and said Griffith and Cleanaway were committed to long term renewal and rehabilitation of exhausted landfills.

> The results at New Chum have been highly encouraging and we look forward to working with Dr Michael over coming years to continue to find innovative ways to regenerate and reinvigorate our site," Mr Carter said.

Native vegetation has thrived on the rehabilitated cell at New Chum

You can see more about the project ***here.***

About New Chum

The Cleanaway New Chum Landfill is located within a zoned industrial precinct on the site of the former largest opencut coalmine in the Ipswich suburb of New Chum and has been operating since 1998.

Although currently closed, the site services the demolition, construction and industrial markets within South East Queensland and Northern NSW. It is regulated by the Queensland Deparment of Environment and Science (DES) to accept inert waste streams, including construction waste, industrial waste and various contaminated soils.